BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.

REMARKS

Favorable reconsideration is respectfully requested.

Upon entry of the above amendment, the claims will be 33 to 41.

The rejections in Official Action paragraphs 3 to 5 are moot in view of the cancellation of claims 17 to 24.

With regard to Official Action paragraph 6, the term "the coating" in claim 33 has been replaced by "said layer". This inconsistency resulted from a typographical error in the early version of this claim.

Claims 33 and 35 to 38 have been rejected under 35 USC 102(b) as anticipated by Mehta et al (US 5,219,641).

This rejection is respectfully traversed.

A brief discussion of the present invention will be in assistance in appreciating applicants reasons for traversal of the rejection.

The films of the present invention are printable with radiation curable links. The print receptive coatings used the present invention do not themselves further react under UV radiation. These coatings contain unsaturated functional groups on a plasticizer which is dispersed in the polymer coating. The coating composition already contains a polymer so further reacting (whether cross-linking or polymerization) after the coating has been applied to the film is not necessary as the coated film can be readily printed.

The dispersed unsaturated groups are available to bind to the UV curable links printed thereon when the ink is UV cured *in situ* as these groups have not previously reacted internally within the coating. If the groups reacted internally within the coating when exposed to UV light, they would react (polymerize or cross-link) with the water dispersible polymer before the UV link had time to diffuse into the coating to bind to these groups.

In contrast, the films of Mehta comprise a surface composition of various monomers and oligomers. For this purpose, the oligomers used in Mehta are low molecular weight species entirely different from the water dispersible polymers used in the coatings of the present invention as the oligomers could not *'provide a smooth film surface for printing'*.

The Mehta coating composition must be applied to the film and then be irradiated to form a cross-linked polymeric network as a coating on the film surface. This is a suitable receptive coat for printing by the thermal transfer method. Therefore during printing of the Mehta coatings, there are no remaining unsaturated functional groups available which might react with the ink since the unsaturated groups have already been reacted to form the polymeric coating.

It is irrelevant whether the coatings of Mehta are considered to be polymerized or cross-linked, although the applicant believes that in the present context there is no difference. The inks used for thermal transfer printing are different from UV curable inks as the thermal transfer inks fuse to the film surface by heat. Unsaturated groups would not react with the thermal transfer inks used by Mehta. There would be no reason for a reader of Mehta to prepare coatings where unreacted groups remained on the film surface. Under the conditions of thermal transfer printing, such groups may be disadvantageous e.g. could lead to increased blocking of the film.

Mehta also discloses that the film may be pre-printed e.g. with press ink then coated with the UV curable print receptive coat and finally printed by thermal transfer (col.2, lines 28 to 31). This is to overcome the problem of incompatibility between thermal transfer and other inks. However it also teaches away from the present invention as these pre-printed layers of inks form further inner layers which are applied to the film sequentially.

There is also no suggestion that such pre-printed inks might be UV curable inks. There is no suggestion such inks may react with the next layer of the UV cured print receptive coating. Indeed if they did, this would weaken the polymer network formed when the print receptive layer was UV cured.

In sum, the films of Mehta are completely unsuggestive of those presently claimed.

Claim 33 has been revised to emphasize that it is the absence of an internal reaction with the coating under UV which is the factor which allows the improved adhesion of the UV curable inks. This feature also addresses the point in paragraph 10 of the Official Action regarding cross-linking and blending of the Mehta coatings. The basis for this revised limitation is in paragraph [0020] of the present published application 2002 098340.

Responsive to Official Action paragraph 8, claim 33 has been amended to recite the presence of ethylenically saturated plasticizers which plasticize the layer. This amendment also

emphasizes that the "water dispersible polymer" not be an oligomer (as in Mehta) since no oligomer could provide a smooth film surface for printing.

The rejection of claim 34 under 35 USC 102(b) or 35 USC 103(a) as obvious over Mehta is also respectfully traversed for the same reasons as above.

The rejection apparently recognizes that Mehta also does not disclose compositions where water dispersible polymers form a matrix and for the above reasons, it is clear that coatings of Mehta fail to inherently provide the same properties as those of the present invention. It is noted that the rejection fails to address applicants previous arguments (raised in the last response) about the difference between the terms "oligomer" (used in Mehta) and "polymer" (used in the present claims). Thus, the finality of the rejection should be reconsidered and withdrawn.

It is also not apparent why, without any evidence, the rejection asserts that the lower limit of the water dispersible polymer of 10% w/w may be too low. It is possible that such matrices may still be formed with 90% of the rest of the formulation dispersed inside the matrix. This depends on the particular water dispersible polymer selected and would be part of the routine skill of a formulator. If in all such formulations with the water dispersable polymer, a matrix was formed then claim 34 would be superfluous rather than a preferred feature of the invention and the subject of a dependent claim. It is not a requirement of claim 34 that all water dispersible polymers can form a matrix when present at 10% by weight of the layer, only that some will do so. This preferred feature of invention arises from appreciating that forming such a matrix is a desirable objective. This is not taught in Mehta and indeed the opposite is taught as all the coating components are reacted so there is no matrix as the coating is 100% polymerized!.

For the foregoing reasons, the rejection of claim 34 over Mehta is untenable and should be withdrawn.

Claims 39 to 41 are rejected under 35 USC 103(a) as being unpatentable over Mehta et al. (US 5,291,641) in view of Kuburaki et al. (US 5,047,286).

This rejection is also respectfully traversed.

Kuburaki and Mehta relate to completely different printing techniques (respectively offset and thermal transfer). A printer skilled in the art reading of one these documents would be actively deterred from referring to the other, for analogous reasons to those given above and previously.

For the foregoing reasons, it is apparent that the rejections on prior art are untenable and should be withdrawn.

No further issues remaining, allowance of this application is respectfully requested.

Prior to issuing a further Official Action, other than a Notice of Allowance, if the Examiner considers that any outstanding points can be resolved, he is respectfully requested to contact undesigned to discuss these points by telephone or in a personal interview.

Respectfully submitted,

Alastair Hugh SERVANTE et al.

By: _____

Matthew Jacob
Registration No. 25,154
Attorney for Applicants

MJ/jlg
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
April 15, 2003

Version with Markings to Show Changes Made

33. (Amended) A film printable with UV [radiation] curable inks, said film comprising a substrate and at least a surface layer, said layer covering at least one face of said substrate and consisting essentially of 10 to 98% by weight of a water-dispersible polymer [able to provide] that provides a smooth film surface for printing and 2 to 90% by weight of an ethylenically unsaturated compound [able to plasticize the coating] that plasticizes said layer, said ethylenically unsaturated compound selected from polyfunctional acrylates resulting from the esterification of a polyol with (meth)acrylic acid or polyallyl derivatives, whereby said surface layer does not contain an addition polymerization photoinitiator and said ethylenically unsaturated compound does not react with said water-dispersible polymer when said layer is irradiated with UV radiation.